

[Document Name] ABSTRACT

[Abstract]

[Subject] To improve insulation breakdown resistance (reliability) of a copper interconnection formed using the Damascene method.

[Solution] Cu interconnections 46a to 46e embedded in an interconnection slot 40 of a silicon oxide film 39 are formed by polishing using CMP, and after a post-CMP cleaning step, the surfaces of the silicon oxide film 39 and Cu interconnections 46a to 46e are treated by a reducing plasma (ammonia plasma). Subsequently, a continuous cap film (silicon nitride film) is formed without vacuum break.

[Selected Drawing] Fig. 16